REMARKS

Applicants have carefully reviewed the Examiner's Office Action of April 8, 2005 and provide the following response to the issues raised. Applicants respectfully request reconsideration.

Drawings

The Examiner objects to Figures 1-3, 5-7 and 10 because the figures lack the proper cross-hatching. Specifically, the Examiner points out the cross-hatching to indicate the conductor and insulation materials is incorrect and requests proposed drawing corrections including the requested cross-hatching.

In copending application serial no. 10/246,007, which includes similar drawings as those of the present application, the Examiner indicates in the Office Action dated August 25, 2005 that the drawings are not acceptable because the insulating material should be cross-hatched with thin then thick lines, while conductors should have all thin lines. In copending application serial no. 10/331,900, which includes similar drawings as those in the present application and in application serial no. 10/246,007, the Examiner indicates in the Office Action dated June 17, 2005 that the drawings are acceptable (with the exception of certain numeral references). Applicants respectfully submit that these two determinations are contradictory and respectfully requests the Examiner identify the drawings that are correct relative to the drawings at issue in the present application.

In addition, Applicants respectfully submit that the primary saturant (36) and the high molecular weight, water-swellable polymer topcoat (38) are not necessarily insulating material. Also, Applicants respectfully submit that the plurality of high modulus fibers (32 and 34) is not necessarily conducting material. Therefore, the requested cross-hatching may not be required. Applicants respectfully direct the Examiner's attention to the present application specification and claims.

Without acceding to the correctness of the cross-hatching requirement identified in the Office Action, and without acceding that the primary saturant and the topcoat are insulating material while the high modulus fibers are conductive material, Applicants respectfully submit herewith replacement drawings showing Figures 1-3, 5-7 and 10

including the cross-hatching the Examiner has requested for the Examiner's review and consideration.

Claim Rejections Pursuant to35 U.S.C.§112

The Examiner has indicated that Claims 3 and 11 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite because Claims 3 and 11 recite the limitation to "sized or unsized" with respect to the high modulus fibers throughout these Claims. The Examiner requested clarification and asks if the high modulus fibers are sized or unsized. Applicants respectfully submit that Claims 3 and 11 recite the claim limitation in the alternative whereby the high modulus fibers can be sized or can be unsized. Use of an alternative expression in claim language is acceptable practice, in accordance with MPEP 2173.01, as long as the scope of the subject matter can be determined by one having ordinary skill in the art, in accordance with MPEP 706.03(d). 35 U.S.C.§112. Applicants respectfully submit that the alternative expressions used in Claims 3 and 11 clearly delineate that the claim limitation includes sized and unsized high modulus fibers such that one of ordinary skill in the art would understand the scope of Claims 3 and 11.

Applicants respectfully submit that in view of the language of Claims 3 and 11 presenting alternative expressions to the cited limitation, Claims 3 and 11 are definite and distinctly claim the subject matter of the invention.

Rejection of Claims 1-2, 4, 7 and 8 Pursuant to 35 U.S.C.§103(a)

Claims 1-2, 4, 7 and 8 are rejected under 35 U.S.C.§103(a) as being unpatentable over U.S. 5,286,562 issued to Girgis ("Girgis") in view of U.S. 5,925,461 issued to Fairgrieve ("Fairgrieve"). Applicants respectfully traverse the rejection of Claims 1-2, 4, 7 and 8 for the reasons given below.

In the Office Action dated April 8, 2005, the Examiner alleges that Girgis substantially discloses the flexible reinforcement member of Claim 1; however, Girgis does not explicitly disclose a melt viscosity of less than approximately 1000 centipoise and a higher molecular weight, water-swellable polymer topcoat coupled to said primary saturant. The Examiner indicates that Fairgrieve teaches a higher molecular weight, water-swellable polymer topcoat. Therefore, the Examiner concludes it would have been

obvious to one having ordinary skill in the art at the time the invention was made to use the higher molecular weight, water-swellable polymer topcoat of Fairgrieve and couple the topcoat to said primary saturant of Girgis. Applicants respectfully disagree with the Examiner's conclusion for the reasons discussed below.

As Applicants understand the cited prior art reference, Girgis discloses a sizing dispersion or aqueous chemical treatment including a wax solid-in-liquid dispersion that is applied to weaveable textile glass fiber strands or yarns used for making cloth. After the dispersion is applied to the strands or yarns, the strands or yarns are dried and the dispersion forms a dried residue on glass filaments or glass fibers. (col. 2, lines24-27). The dried residue reduces or prevents breaking of the glass filaments or fibers during weaving of the strands or yarns into cloth using air jet looms. (col. 1, lines 65 thru col. 2, line 6).

Fairgrieve discloses a water blocking composite for use with a cable that includes a strengthening member or a buffer tube impregnated or coated with a mixture of a thermoplastic resin and a water-swellable particulate material. (col. 1, lines 59-63). The water blocking composite is used in cable manufacture and is incorporated into cable to prevent ingress of water into the cable and to provide strength to the cable. (col. 1, lines 54-56).

The mixture includes a thermoplastic resin including a low melting point thermoplastic polymer, or a mixture of such polymers, such as an ethylene vinylacetate based hot-melt adhesive. (col. 2, lines 30-34 and col. 3, lines 65-66). Dispersed within the thermoplastic resin is a water-swellable particulate material including an acrylate, a urethane, a cellulosic based material or a partially cross linked acrylate polymer, such as a superabsorbent polymer powder. (col. 2, lines 35-39 and col. 3, lines 1-3).

Fairgrieve essentially discloses a hot-melt adhesive with water-swellable particulate material dispersed therein through which a strengthening member or buffer tube is passed to thereby impregnate or coat the glass fibers of such member or buffer tube. It is the water-swellable particulate material that imparts water blocking properties to the member or buffer tube. As defined, a particulate material includes a plurality of

minute separate particles of a granular substance or powder.[1] Indeed, Fairgrieve discloses the particulate material includes "a superabsorbent polymer powder." (col. 4, lines 1-2).

In the form of glass fiber filaments, glass fiber tow bundles, glass fiber rope or glass fiber rod, a strengthening member or buffer tube is passed through a bath of the mixture of hot-melt adhesive with water-swellable particulate material dispersed therein. As a result, the hot-melt adhesive dispersion forms a matrix including impregnated or coated glass fiber filaments, or glass fibers comprising a bundle, rope or rod, throughout which the water-swellable particulate material is dispersed between such glass filaments or fibers to thereby impart water absorbing properties to the matrix. (col. 3, lines 23-30).

As mentioned above, the Examiner indicates Girgis in view of Fairgrieve would have made a high molecular weight, water-swellable polymer topcoat coupled to said primary saturant, as claimed in Claim 1, obvious to one having ordinary skill in the art. Applicants respectfully submit that neither Girgis nor Fairgrieve provide a teaching or suggestion to combine the teachings of the references as the Examiner suggests.

The Examiner indicates Fairgrieve teaches a high molecular weight, water-swellable polymer topcoat; therefore, the Examiner concludes Fairgrieve provides a teaching or suggestion that would have motivated one of ordinary skill in the art to combine the teachings of Fairgrieve with Girgis to modify Girgis to achieve a high molecular weight, water-swellable polymer topcoat coupled to said primary saturant. Applicants respectfully disagree.

Fairgrieve does not teach or suggest a high molecular weight, *water-swellable polymer topcoat.* Rather Fairgrieve discloses a mixture of a thermoplastic resin and a *water-swellable particulate material* for impregnating or coating glass fibers or glass fiber filaments of a strengthening member or buffer tube to thereby form a matrix that demonstrates water swellable properties. The water-swellable particulate material is dispersed within the thermoplastic resin and thereby dispersed between the glass fibers or glass fiber filaments of the strengthening member or buffer tube. Thus, although the

[1] The American Heritage® Dictionary of the English Language, Fourth Edition, Houghton Mifflin Company, 2000.

particulate material of Fairgrieve is water-swellable, the mixture Fairgrieve discloses does not form *a water-swellable polymer topcoat* of the claimed invention.

More particularly, the matrix of glass fiber filaments or glass fibers impregnated or coated with the Fairgrieve mixture that is formed essentially includes water swellable particulate material "buried" within such matrix to provide water absorbing properties to the strengthening member or buffer tube. Fairgrieve therefore does not teach or suggest at least *a water-swellable polymer topcoat*, and further does not teach or suggest such topcoat *coupled to a primary saturant* that is *coupled to a plurality of high modulus fibers*. In contrast to Claim 1, Fairgrieve teaches or suggests water-swellable particulate material, or a superabsorbent polymer powder, mixed with a hot-melt adhesive that when applied to glass fibers or glass fiber filaments forms a matrix or a strengthening member or buffer tube having water absorbing properties. Applicants respectfully submit that at least *a water-swellable topcoat* as claimed in Claim 1 is patentably distinguishable from the mixture of *thermoplastic resin/water-swellable particulate material*, such as a hot-melt adhesive/ superabsorbent polymer powder, that Fairgrieve discloses.

In the present application specification, Applicants disclose a feature or an advantage of the high molecular weight, water-swellable polymer topcoat is to completely water block the plurality of high modulus fibers. (page 7, para. [0017], lines 15-17). The high molecular weight polymer topcoat surrounds the plurality of high modulus fibers, *but does not penetrate the fibers*. (page 7, para. [0017], lines 9-10)(emphasis added). As a result, superabsorbent powder is not buried inside the matrix and "wasted" and thus not available for swelling in response to contact with water or moisture. (page 17, para. [0049], lines 6-8). The high molecular weight, water-swellable polymer topcoat therefore helps to prevent fiber deficiencies due to water penetration. (page 8, para. [0019], lines 6-7). This is not achieved in accordance with the teachings of Fairgrieve.

Applicants respectfully submit that the Fairgrieve hot-melt adhesive/water-swellable particulate mixture used to impregnate or coat glass fibers or glass fiber filaments does not achieve at least the *high molecular weight, water-swellable polymer topcoat* of Claim 1, nor does it achieve any of the features or advantages of the water-swellable polymer topcoat of the claim invention, as described in the present application

specification. In addition, the Fairgrieve mixture does not achieve such topcoat *coupled to a primary saturant* that is *coupled to a plurality of high modulus fibers*.

Thus, in contrast to the Examiner's conclusion, Fairgrieve does not provide a teaching or suggestion of at least *a high molecular weight, water-swellable polymer topcoat*, as recited in Claim 1.

In addition, Applicants respectfully submit that one of ordinary skill in the art would not look to the teachings of Girgis or Fairgrieve to modify the weaveable textile glass fiber strands or yarns of Girgis to achieve the claimed invention because neither Girgis or Fairgrieve teach or suggest a solution for modifying textile glass fiber strands or yarns used to weave cloth to form a flexible reinforcement member for a communications cable having at least a high molecular weight, water-swellable polymer topcoat.

The teachings of Girgis address the problem of treating or sizing glass fiber strands or yarns used to weave cloth without having to heat clean the cloth in order to remove the sizing, and any other chemical treatments applied in producing the cloth, so the cloth can be dyed, coated or treated before the ultimate end use of the cloth. In modern loom equipment, such as air jet looms, starch and starch-oil sizes cause problems. (col. 1, lines 19-32). Girgis discloses a dried residue for treating or sizing glass fibers or filaments to reduce or eliminate broken glass fibers or filaments during weaving with air jet looms. (col. 2, lines 24-30). The dried residue is a product of an aqueous chemical treatment, including at least one wax in a solid-in-liquid dispersion or emulsion together with lubricating materials and/or coupling agents, which is applied to glass fibers or filaments and then dried to form the residue and to thereby size the fibers or filaments. (col. 1, lines 68 thru col. 2, line 3; and col. 2, lines 24-26).

One of ordinary skill in the art would not look to prior art references in the textile arts, such as Girgis, to solve problems associated with preventing water ingress in communications cable. More specifically, one of ordinary skill in the art would not look to Girgis that provides a solution to strengthening glass fibers or yarns used for weaving cloth to achieve at least water-swellable properties of a flexible reinforcement member for a communications cable. In particular, the glass fiber strands or yarns of Girgis could not be formed into a reinforcement member with water-swellable properties because to

do so would render the textile glass fiber strands or yarns inappropriate for weaving into cloth, particularly using the air jet looms identified in Girgis. At least the desired strength properties of the weaveable textile glass fibers or yarns of Girgis are distinctly different from the desired water-swellable properties of a flexible reinforcement member for a communications cable such that one of ordinary skill would not turn to this prior art reference to achieve the claimed invention. Therefore, Girgis does not provide any teaching or suggestion to combine its teachings with other prior art references, and in particular with Fairgrieve, such that the claimed invention would have been obvious to one having ordinary skill in the art.

For similar reasons, Fairgrieve does not provide any teaching or suggestion to combine its teachings with other prior art references, and in particular with Girgis, such that the claimed invention would have been obvious to one having ordinary skill in the art. The technological art in which the Fairgrieve reference resides is sufficiently different from that of Girgis such that one of ordinary skill in the art would not look to Girgis to achieve at least a high molecular weight, water-swellable polymer topcoat.

Therefore, Applicants respectfully submit that one of ordinary skill in the art would not make the cited combination of prior art references as the Examiner suggests to modify the teachings of Girgis with the teachings of Fairgrieve to achieve at least *the high molecular weight, water-swellable polymer topcoat* of the reinforcement member claimed in Claim 1.

Further, Applicants respectfully request the Examiner identify those portions of the Girgis and the Fairgrieve disclosures that provide such a teaching or suggestion, or the legal reason, that would have motivated one of ordinary skill in the art at the time of the invention to combine the references and thereby render the claimed invention obvious.

Assuming *arguendo* that the combination of Girgis in view of Fairgrieve were obvious to one having ordinary skill in the art, as the Examiner suggests, Applicants respectfully submit the combination of the teachings of these prior art references would not achieve the reinforcement member for a communications cable, as recited in Claim 1. Modifying the weaveable textile glass fiber strands or yarns of Girgis with the mixture of

Fairgrieve, including a hot-melt thermoplastic resin with water-swellable particulate material dispersed therein, would not produce a flexible reinforcement member having at least *a high molecular weight, water-swellable polymer topcoat.*

In addition, the combination also would not produce such topcoat *coupled to a primary saturant* that is *coupled to high modulus fibers* to completely water block the high modulus fibers. As discussed above, applying the mixture of Fairgrieve to the sized glass fiber strands or yarns of Girgis would result in glass fiber strands or yarns within the mixture to form a matrix of glass fibers or yarns with water-swellable particulate material dispersed therein. The mixture of Fairgrieve (and/or the coating/impregnating method described in Fairgrieve) would need to be substantially changed to achieve the high molecular weight, water-swellable polymer topcoat, as well as to achieve the topcoat coupled to a primary saturant to thereby completely water block the plurality of high modulus fibers.

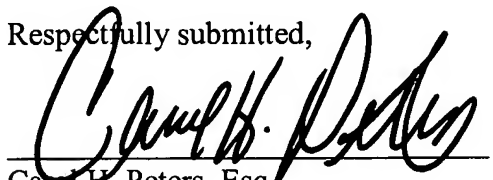
Further, the sizing or aqueous chemical treatment of Girgis also would need to be substantially changed to form at least *a primary saturant coupled to the plurality of high modulus fibers* rather than the disclosed residue that merely coats the high modulus fibers. Applicants respectfully submit such residue does not serve as the primary saturant as claimed in Claim 1 and as described in the present application specification and shown in Figures 1-3 and 5-7. Such sizing or aqueous chemical treatment would need to be substantially changed to form *a primary saturant* to which the *water-swellable polymer topcoat couples* to completely water block the high modulus fibers contained therein.

Therefore, for the foregoing reasons, Applicants respectfully submit that the reinforcement member of Claim 1 is not obvious and is patentable over Girgis in view of Fairgrieve. Accordingly, Applicants respectfully request the withdrawal of the rejection of Claim 1 under 35 U.S.C.§103(a).

Claims 2-19 depend from Claim 1 and are patentable for at least the reasons given above. Applicants therefore respectfully request withdrawal of the rejection of Claims 2-19.

Based on the foregoing discussion, the present application is in condition for allowance, and an action to this effect is respectfully requested. Should the Examiner have any questions concerning this response, she is invited to telephone the undersigned attorney at the number provided.

Respectfully submitted,



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